




<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50401180 003</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	<b>170288316</b>	<b>Seite 1 von 12</b> <i>Page 1 of 12</i>
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	N/A	<b>Auftragsdatum:</b> <i>Order date:</i>	2021-11-16	
<b>Auftraggeber:</b> <i>Client:</i>	AOK Industrial Company Limited Building 1, Shengzouzhi Technology Industrial Park, Shajing Street, Shenzhen City, Guangdong Province, China			
<b>Prüfgegenstand:</b> <i>Test item:</i>	LED Street Light			
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	AOK-150WiL02-NV-L3-00-XX70-T201-PH AOK-150WiL02-NV-L5-00-XX70-T202-PH For variables XX denotes the CCT, it can be 30-57 for 3000-5700K			
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	Type examination			
<b>Prüfgrundlage:</b> <i>Test specification:</i>	IES TM-21-11 plus client's special requirements			
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	2021-11-16	Detaillierte Fotodokumentation siehe Anlage zu diesem Bericht  Detailed photo documentation see appendix to this report		
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A003092347-001; 002			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	2021-11-16 to 2021-11-18			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	See following pages			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TUV Rheinland (Guangdong) Ltd.			
<b>Prüfergebnis*:</b> <i>Test result*:</i>	See following pages			
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>		
 2021-11-26 Ken Ou/ Project Engineer		 2021-11-26 Mars Yan / Reviewer		
<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>
<b>Sonstiges / Other:</b>				
Based on 50401180 002, only updated the report format without any test.				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

**Copy of marking plate:**

N/A

**Test item**

Description..... : LED Street Light

Trademark ..... :  (AOK)

Model and/or type reference ..... : AOK-150WiL02-NV-L3-00-XX70-T201-PH  
AOK-150WiL02-NV-L5-00-XX70-T202-PH  
For variables XX denotes the CCT, it can be 30-57 for 3000-5700K  
For codes NV denotes 220-240V; L3 denotes 3030 chips; L5 denotes 5050 chips; 00 denotes without sensor; 70 denotes Ra 70; T201 and T202 denotes beam angle; PH denotes Photocell

Factory..... : AOK Industrial Company Limited

Building 1, Shengzouzhi Technology Industrial Park, Shajing Street,  
Shenzhen City, Guangdong Province, China

Rating(s)..... : 220-240V~, 50-60Hz, 150W

**Test case verdicts**

Test case does not apply to the test object..... : N/A

Test item does meet the requirement ..... : P(ass)

Test item does not meet the requirement ..... : F(ail)

**Testing**

Date of receipt of test item ..... : See cover page

Date(s) of performance of test..... : See cover page

**Summary of testing:**

1. As per client's special requirement, the test was conducted under 230V~, 50Hz. Model AOK-150WiL02-NV-L3-00-3070-T201-PH (3000K) and AOK-150WiL02-NV-L5-00-3070-T202-PH (3000K) were selected for the test.

2. Test place:

TUV Rheinland (Guangdong) Ltd.,

Address: No.199 Kezhu Road, Guangzhou Science City, Guangzhou 510663, Guangdong Province P.R. China

3. LED luminaire model and LED specification see below tables.

Luminaire model list:

Model	LED Driver	Rated Input	Rated Power	CCT	Ra	LED
AOK-150WiL02-NV-L3-00-XX70-T201-PH	(Philips) Xi FP 165W 0.3-1.0A SNLDAE 230VC170 sXt	220-240V~, 50-60Hz	150W	3000- 5700K	>70	LUXEO N 3030 2D
AOK-150WiL02-NV-L5-00-XX70-T202-PH	(Philips) Xi FP 165W 0.3-1.0A SNLDAE 230VC170 sXt	220-240V~, 50-60Hz	150W	3000- 5700K	>70	LUXEO N 5050

LED specification:

Type	Manufacturer	Size (mm)	I <sub>F</sub> (mA)	V <sub>F</sub> (V)	CCT (K)	Viewing angle (°)
LUXEON 3030 2D	Lumileds	3.00x3.00x0.66	120	5.6-6.6	3000-5700K	116
LUXEON 5050	Lumileds	5.00x5.18x0.70	240	23.5-26.5	3000-5700K	116

## 4. Test result summary as below:

Tested model	Test Result	
AOK-150WiL02-NV-L3-00-XX70-T201-PH	Temperature for LED (°C)	LED Drive Current (mA)
	87.8	97.63
	TM-21 Reported L80 (hours)	
	>72000	
	Temperature for tc of LED driver (°C)	
	90.8	
AOK-150WiL02-NV-L5-00-XX70-T202-PH	Temperature for LED (°C)	LED Drive Current (mA)
	91.0	50.4
	TM-21 Reported L80 (hours)	
	>72000	
	Temperature for tc of LED driver (°C)	
	91.1	

## Test Method

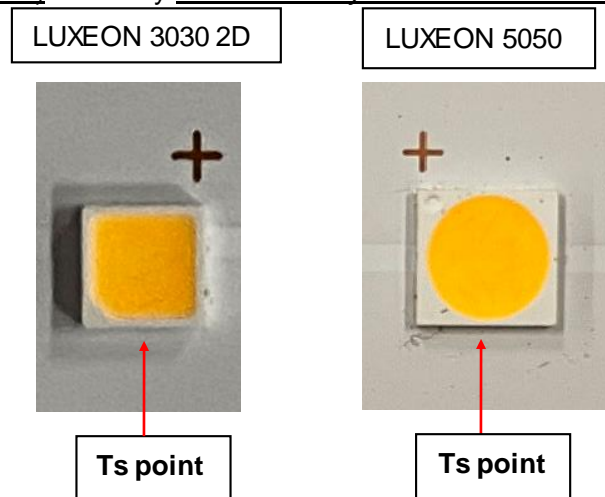
The test was conducted according to ANSI/UL 1598:2008, Section 19, the luminaire shall be installed or supported to simulate intended usage, in accordance with the manufacturer's instructions.

The ambient temperature in which measurements are being taken shall be maintained at  $50^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .

The apparatus construction followed the description in ANSI/UL 1598 for normal temperature test. Thermocouples were placed on the LED package that the location was indicated by LM-80 report.

The temperatures shall be measured after they have stabilized, when the test has been running for a minimum of 7.5 hours or the test has been running for a minimum of 3 hours and three successive readings taken at 15 min intervals are within  $1^{\circ}\text{C}$  of one another and are not rising.

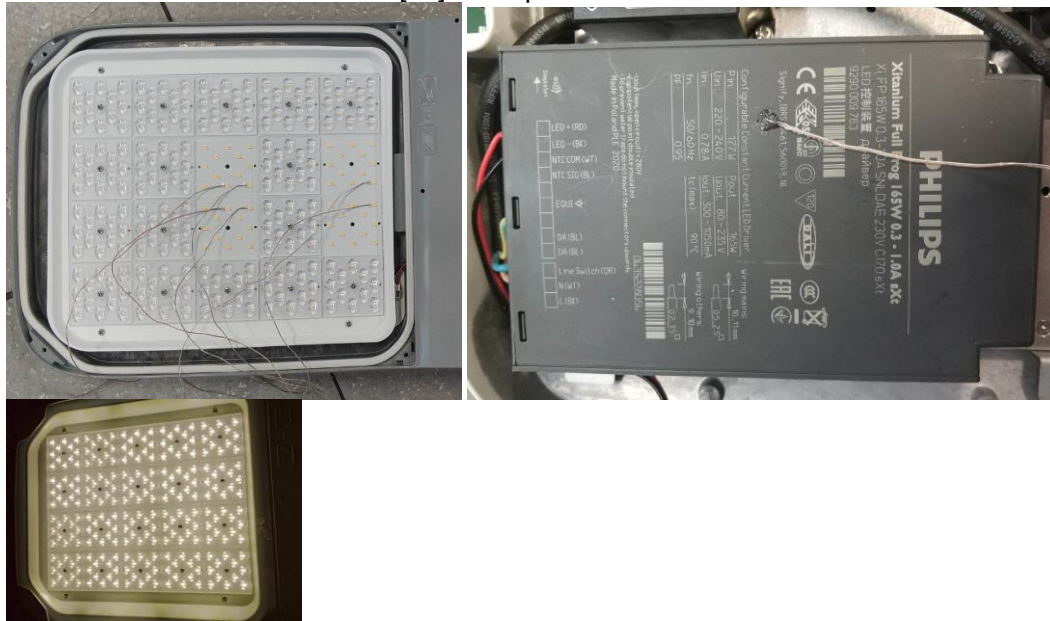
ISTMT test location according to LM80 report provided by client, for further information please see report no. IESNA LM-80 test report for LUXEON 3030 2D (Jan. 17, 2020) and IESNA LM-80 test report for LUXEON 5050 (Sep. 20 2018) issued by Lumileds Malaysia Sdn. Bhd. Reliability Test Laboratory.



## Test Result

Model	AOK-150WiL02-NV-L3-00-3070-T201-PH			
Input Voltage (V)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
230	50	0.656	0.985	148. 6
Thermocouple Location	Temperature (°C)		I <sub>F</sub> LED Drive Current (mA)	
	Tested Value		Tested Value	LM-80 Limited
LED#1	87.8		97.63	120
LED#2	87.7			
LED#3	87.6			
tc of LED driver	90.8 (limint: 90+5 tolerance)			
Ambient	50.0			

Picture of measurement Point of [Ts] in the product



Time (t) at which to estimate lumen maintenance (hours)	50000h	60000h
Lumen maintenance at time (t) (%)	87.08%	84.62%
Calculated L80 (hours)	80000h	80000h
Reported L80 (hours)	>72000h	>72000h

Model	AOK-150WiL02-NV-L5-00-3070-T202-PH			
Input Voltage (V)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
230	50	0.646	0.986	146.5
Thermocouple Location	Temperature (°C)		I <sub>F</sub> LED Drive Current (mA)	
	Tested Value		Tested Value	LM-80 Limited
LED#1	90.5		50.4	60
LED#2	91.0			
LED#3	90.8			
tc of LED driver	91.1 (limint: 90+5 tolerance)			
Ambient	50.0			

Picture of measurement Point of [Ts] in the product



Time (t) at which to estimate lumen maintenance (hours)	50000h	60000h
Lumen maintenance at time (t) (%)	87.05%	84.52%
Calculated L80 (hours)	79000h	79000h
Reported L80 (hours)	>72000h	>72000h

**Equipment List**

Equip.	Description	Model	Manufacturer	Last Date	Due Date
G1813445	Temperature Room	NA	dongguan jian xin	02.07.2021	02.07.2022
G1812770	Hybrid Recorder	MX100-E-1R	YOKOGAWA	09.10.2021	09.10.2022
G1813477	Power supply-KDF-11005GS(5KVA)	11005GS(5KVA)	APC	NA	NA
G1820330	Digital power Meter	WT333E	YOKOGAWA	07.05.2021	07.05.2022



## Appendix: Product Photos

Over view of AOK-150WiL02-NV-L3-00-XX70-T201-PH



Over view of AOK-150WiL02-NV-L5-00-XX70-T202-PH



Back view of AOK-150WiL02-NV-L3-00-XX70-T201-PH and AOK-150WiL02-NV-L5-00-XX70-T202-PH



internal view of AOK-150WiL02-NV-L3-00-XX70-T201-PH and AOK-150WiL02-NV-L5-00-XX70-T202-PH  
(different in LED module)



**PHILIPS**

**Xtanium Full Prog 165W 0.3 - 1.0A sXt**  
Xi FP 165W 0.3-1.0A SNI.DAE 230V C170 sXt  
LED 控制裝置 драйвер  
9290 009 763



Signify, 1805 10461, 5600VB NL

\* tc

**Configurable Constant Current LED Driver**

P <sub>tot</sub> :	177 W	P <sub>out</sub> :	165 W
U <sub>in</sub> :	220 - 240 V	U <sub>out</sub> :	80 - 235 V
I <sub>in</sub> :	0.78 A	I <sub>out</sub> :	300 - 1050 mA
f <sub>n</sub> :	50/60 Hz	t <sub>c</sub> (max):	90 °C
PF:	0.95		

Wiring mains:  10...11mm  
Wiring others:  0.5...2.5  
 9...30mm  
 0.2...1.5



05 35226024

- Load dim. open circuit > 200V  
- Equivalent ul point double insulated  
- To prevent water traps do not insert the connections upwards

Made in Poland/PLE 2020

LED + (RD) ☐ LED - (BK) ☐ NTC COM (WT) ☐ NTC SIG (BL) ☐ EOUT ☐ DA (BL) ☐ DA (BL) ☐ Line Switch (OR) ☐ N (MT) ☐ L (BK) ☐

 Screwdriver

**ZYS** Surge Protective Device  
Model: ZYS-S10WLED

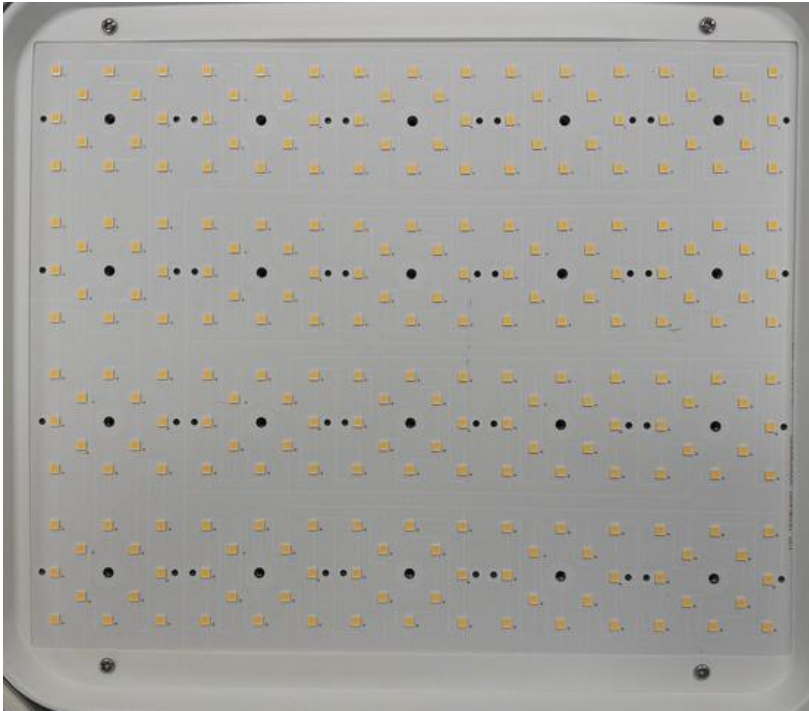
● AC(L)(BROWN)    Un:100-277VAC    fn:50/60Hz    (BROWN)AC(L) ●  
● AC(N)(BLUE)    Rated load current: 5A    (BLUE)AC(N) ●  
● (V)(V)    MCOV/Uc: 350VAC    (V)(V) ●  
In:5kA    Imax:10kA    Uoc:10kV    Up:1.5kV    E+E  
Tlx:-40-85°C  
Suitable for use in Dry, Damp and Wet Locations

**CE IP67** Made in China

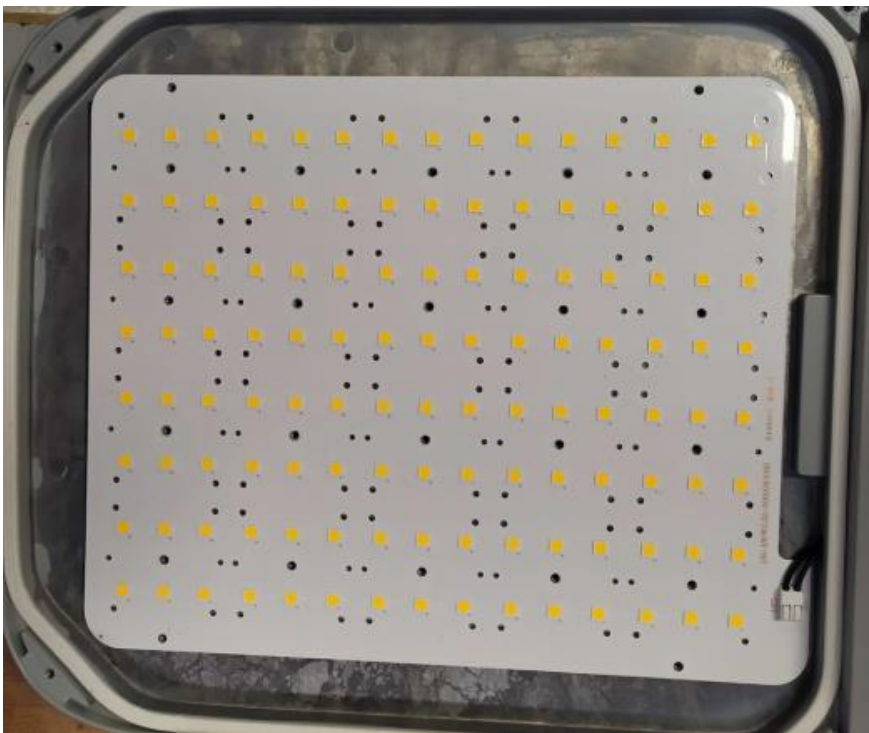
INPUT OUTPUT



LED module view of AOK-150WiL02-NV-L3-00-XX70-T201-PH



LED module view of AOK-150WiL02-NV-L5-00-XX70-T202-PH



---End of Test Report---